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ABSTRACT

The role of reading retardation as a factor in juvenile delinquency was examined in a study which sought (1) to determine a correlation between retardation over a 5-year period and (2) to observe any changes which might have occurred in the relationship since a 1915 study. Boys committed to a St. Paul, Minnesota, boys' residential treatment center over a 5-year period from 1966 to 1971 were used as subjects. Interviews; intelligence, reading, arithmetic, and spelling tests; and personality inventories administered at the time of referral to the center provided data for analysis. The results indicated that reading grade levels of delinquents remained stable over the 5-year period and showed consistent retardation. Little change in the relationship between retardation and delinquency could be found since 1915. It was concluded that while retardation cannot be said to be a cause of delinquency, it is felt that remediation may be a factor in rehabilitating delinquents. Tables and references are included. (MS)

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RECENT TRENDS IN THE READING LEVELS OF DELINQUENT BOYS

U. S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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by:

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Introduction

Behavorists often define frustration as "something" that interferes with the attainment of a reinforcement. Their definition continues that this frustration leads to anger and then to aggression which may be exhibited in two ways. First as instrumental aggression, or aggression that is exhibited so as to attain the desired reinforcement or aggression that results in the delivery of unpleasant negative stimuli to other people or things such as personal property, etc.. This later behavior, as well as the previous, results in labeling the act as "deviant," "socially maladjusted," "emotionally disturbed," "delinquent," and on and on with words describing behavior considered undesirable. The end result usually leads to admonishment of punishment to eliminate the behavior.

Punishment, in and of itself, may be an appropriate way to reduce the undesirable behavior. However, it seems unlikely that punishment, alone, will serve to "cure" the undesirable behavior that an individual exhibits. Instead, it serves only to alleviate the expression of a behavior(a symptom) when the underlying reason(a cause) may well be the element to treat. Obviously, a doctor does not treat symptoms of diseases so as to rid the body of an unpleasant organism. He does, however, treat the organism itself. Likewise, in education, we must learn the causes of certain behaviors and treat the causes if we are to eliminate undesirable behavior in the classroom, the school, or in the social setting itself.

The contention is made, then, that one of the causes of deviant behavior we call "delinquency" is frustration. More specifically, frustration within the school setting created by the inability to read, to comprehend, to meet the expressed desires of the teacher often requi ing reading skills.

Few educators refuse to agree the basic skill of reading is essential to the attainment of reinforcement in the school setting. Many people, professional and lay alike, experience the daily frustration created by requiring reading skills. However, many fail to recognize that the early attainment of basic reading skills were essential to continued growth in reading ability in later years.

Granted, reading is only one of the factors contributing to delinquency. There are other factors that must be considered. Perhaps one of the best summaries of these variety of parameters was that done by Peterson(5) when he reviewed five of the all-time classical studies on juvenile delinquency. Peterson found that variables important to differentiate between delinquents and nondelinquents included; intellectual aspects, early developmental history, family life, physical habits, personality-emotionally, interests and activities, recreational preferences, play place, movie attendance, church attendance, companions, and fondness of reading.

Although these are basic elements associated with delinquency, it is probable to assume these same variables are instrumental in developing reading skills. For example, Spache(8, Pp. 43-75) has described reading readiness in terms of perceptual, tactile, auditory, and visual abilities as essential to developing reading skills. This could well be associated with the variable of "early developmental history" described by Peterson. Likewise, interests and experiences have been important elements in reading programs(8, Pp. 21-27), etc..

Although the inference is made that reading may well be an element contributing to delinquency, there are less cautious writers who have associated reading frustration with delinquency. For example, Bond and Tinker(1, Pp. 5) state:

> "Emotional disturbances are likely to accompany reading disability. In many cases, such maladjustment is due to frustration in the learning situation. The need of successful achievement is fundamental at all educational levels. When there is severe reading retardation, normal personality development is likely to be inhibited. The frustration due to continued failure in reading may manifest itself in any one of several ways. The child may compensate for his feeling of inferiority by exhibiting bullying and blustering behavior. Or he may retire from active participation in school or play activities and seek satisfaction he desires through daydreaming. Continued frustration in the learning situation may lead to truancy and even juvenile delinquency. In fact, evidence presented by Gates(76), Gates and Bond(83), Fendrick and Bond(69), and by Polmantier(139) indicates that in certain instances, failure in reading tends to contribute to juvenile delinquency... ."

Problem

Townsend(10, Pp. 3) has described the rising incidence of delinquency. "In 1963, the number of children decreased about 1% from the previous year for the first time in the 11-year history of the reporting plan. It was conjectured that the growing number of reception and diagnostic centers, not at that time included in the report, was a factor in the apparent decrease. In 1964, with the inclusion of these centers, there was a 14% increase over 1963, while the general child population, aged 10 through 17, increased only by about 4%."

Likewise, Jackson, et. al. (3, Pp. 4) reported "approximately 51,000 children were living in public institutions for delinquent children on June 30, 1966, an increase of 16% over 1964." The survey was conducted among 304 total known public institutions in the U.S..

"In 1967," Juvenile Court Statistics(4, Pp. 2) show, "there was again an increase in the number of juvenile court cases over the previous year. The increase for 1967 was 8.9% as compared to an increase in the child population aged 10 through 17 of only 2.2 percent. Thus, the upward trend in the number of juvenile court delinquency cases, noted every year since 1949, with the exception of 1961, continues. And again, as in most previous years in the past decade,

the increase in delinquency cases exceeded the increase in the child population."

Based on these statistical data and upon the rationale that reading failure and resulting frustration create or contribute to delinquency the null hypothesis to be considered was established. That being that reading levels of delinquents has not changed considerably in the last five years and, more specifically, has not changed from that reported in 1915.

Review of the Literature

A brief, but exhausting, review of the literature leaves much to be desired in terms of studies showing relationships between reading levels and rates of delinquency, as well as reading levels of delinquents. Peterson(5), in reviewing the five classical studies reported in the literature on delinquency, found delinquents were retarded in reading skills. Quay(6, Pp. 103-113) reported on descriptive studies of delinquency and found they were "below average" in intelligence. Likewise, Rose(7, Pp. 37) reported that 70% of approved school boys fall below IQ 100. In terms of reading he reported "that the large majority of the boys..." in approved schools "... are retarded to a greater or lesser degree." Thus, there appear few studies which make available reading levels of delinquents.

One study by Stenquist, Thorndike and Trabue(9), however, was instrumental in providing the needed, valuable statistics upon which a later comparative study was made by this author. In the reported study, "two hundred and sixty-five children, including one hundred and eighty-three boys and eighty-two girls, were measured. They comprised about three fourths of the children from 9 years 0 months to 16 years 0 months who were, at the time of the investigation, public charges in

a certain county. The selection was random except that none of the dependent children sent from the county to the state institution for the care of the feeble-minded were included, and that a few children under nine were tested who probably represented a superior selection from the seven-year and eight-year olds. Apart from these, the only selective factor was the omission of some of the smaller institutions in toto from the inquiry."(9, Pp. 1)

Although the basic purpose of their investigation was to measure the child's mechanical ability, one variable requiring their consideration was reading ages of the sample which resulted in a valuable source of statistics to which this author could compare reading levels of delinquents in the study under consideration. Table I summarizes their results.

Insert Table I About Here

The data these authors reported, confirmed the relative retardation of reading ages of delinquents in 1915. It is important to note, though, that the comparison was made to the median of "New York City Children of Poor Neighborhoods" which, if so construed, would imply the differences may be greater if compared to a "normal" population. These statistics comprise a part of the comparative study later in this investigation.

Description of the Population

Although, it was not a primary consideration to compare reading levels of today's delinquents with those of 1915; it was the contention that reading levels of delinquents have not changed considerably over the last five years. It was under this purpose that reading statistics

Table I. Average reading under-ageness of delinquents when compared to the median of New York City Children of Poor Neighborhoods when measured by the Binet, Omitted-Word, and Reading Tests Combined.(9, Pp. 46)

	9 and 10 year olds	11 and 12 year olds	13 and 14 year olds	15 and 16 year olds
number examined	55	80	71	41
average under-ageness	.6½	1.8	2.3½	4.6

of delinquents were gathered.

To gather the statistics it was necessary to obtain a population of delinquents to which reading tests could be administered. This is not always an easy task since definition of a delinquent or delinquency may be many and varied as evidenced by Rose(7, Pp. 18-19) when he sketches the criteria necessary for committal of young persons (under 17) to an approved school.

The categories that make the person eligible for committal are:

"1. Those found guilty of an offence punishable in the case of an adult with imprisonment(section 57 of the 1933 Act).
2. Those found to be in need of care, protection, or control (section 62(I), sections 2 and 3 of the Children and Young Persons Act, 1963). They include, among others:
3. Those against whom any of the offences detailed in the First Schedule of the Act have been committed. These include any offence involving bodily injury, and a number of others ranging from incest to neglect, procuring, allowing persons under 16 to be in brothels, begging, exposing to risk of burning, or to danger in public performances, all of which are covered by the Act itself. The same applied, up to 1963, to section 10 of the Act(which relates to vagrants and children found wandering). All of these cases can be remitted to the juvenile court and the juveniles concerned may be sent to an approved school(section 63(I)). (See below, p. 21.)
4. A child in the care of the children's department of the local authority, where the latter, inheriting the powers of the poor-law authority, satisfies the court that he is refractory and that it is expedient to send him to an approved school (section 65, as amended by section 7(I) of the 1963 Act).
5. A child or young person who has been placed under the supervision of a probation officer, and whom the officer brings back to court as unsatisfactory(section 66(I) and section 6(I) of the 1963 Act). This provision now applies up to the age of 18(1963 Act, s. 6(2)).
6. A child or young person who is in the care of the local authority as a 'fit person', where the authority thinks he should be sent to a school and the court agrees(section 84(8) and section 7(2) of the 1963 Act), or a child who runs away from the care of a 'fit person' (section 85(I)).
7. Those who have been brought to court for failure to attend school. The parent can be prosecuted and the child or young person remitted to the juvenile court to be treated as in need of care and protection, or the child himself may be brought before the court by the education authority(section 40, Education Act, 1944, and section II, Education(Miscellaneous Provisions) Act, 1953).
..."

The population studied, basically, fitted one or more of these criteria since they comprised a group of boys incarcerated at Boys Totem Town upon being adjudicated delinquent by the juvenile courts of the City of St. Paul or other juvenile courts located within the boundaries of Minnesota.

Boys Totem Town is a residential treatment center located in the southeast corner of St. Paul, Minnesota, and operates under the joint auspices of Ramsey County and the City of St. Paul with direct control by the City of St. Paul-Ramsey County Detentions and Corrections Authority.

The population was comprised of boys committed for a variety of delinquent acts; and, exhibited many of the parameters described through the literature on delinquent children. The population was comprised of boys committed to the institution over the last five years and represented primarily, delinquents from Ramsey county. However, an estimated 10 to 20% of the population represented delinquents from adjacent counties as well as those from northeastern counties of Minnesota.

Procedure and Tools Used

Boys committed to the institution were put through a rather exhaustive intake procedure including interview and testing.

The interview procedure resulted in statistics regarding family background, developmental history including medical history, delinquent history as well as age of the delinquent, grade, etc., and the number of siblings and their ages.

The testing procedure resulted in statistics regarding IQ, reading levels in grade, arithmetic levels in grade, and spelling levels in grade. Additional personality parameters were identified when considered

necessary for special diagnosis and treatment, class placement, etc., through the use of the Minnesota Multiphasic Personality Inventory or the Jessness Personality Inventory.

To measure IQ of delinquents committed to the institution, the Otis Group Intelligence Test was used unless the child exhibited behavior characteristics requiring individual testing. Reading, Arithmetic and Spelling grade levels were obtained by the Wide Range Achievement Test(WRAT). An additional test sometimes used was the Gates Reading Test. The later was especially valuable as a diagnostic tool.

Results and Discussion

Test data accumulated during the years September, 1966 through August, 1971 were programmed for the computer and results obtained are shown by Table II.

Insert Table II About Here

The results shown in Table II tend to confirm the hypothesis that was presented. Results indicate that reading grade levels of delinquents committed to Boys Totem Town have remained relatively stable during the period September, 1966 through August, 1971. This same conclusion is more easily observed when the data is presented as in Figure 1.

Insert Figure 1 About Here

Although the trend indicates some overall increase in retardation during the years 1969-70 and 1970-71, this trend may be accounted for with differences of the test instruments that were used as well as differences in mean IQs of the yearly populations. This is more

Table II. Summary of IQ and reading grade levels of delinquents committed to Boys Totem Town from September, 1966 through August, 1971.

Years	IQ Range	X IQ	Reading Grade Level Range	X Reading Grade Level
1966-67	60 to 127	95.7 N=160	1.7 to 11.8 (Gates)	7.49 N=150
1967-68	61 to 127	95.2 N=208	2.2 to 12.6 (Gates)	8.01 N=275
1968-69	55 to 139	90.8 N=237	2.2 to 12.7 (Gates)	7.60 N=207
1969-70	50 to 127	90.5 N=332	1.0 to 13.0 (WRAT)	6.98 N=321
1970-71	61 to 131	92.3 N=155	1.7 to 15.6 (WRAT)	7.4 N=158

Gates means Gates Reading Test
WRAT means Wide Range Achievement Test
N means number of subjects tested upon which the mean was calculated

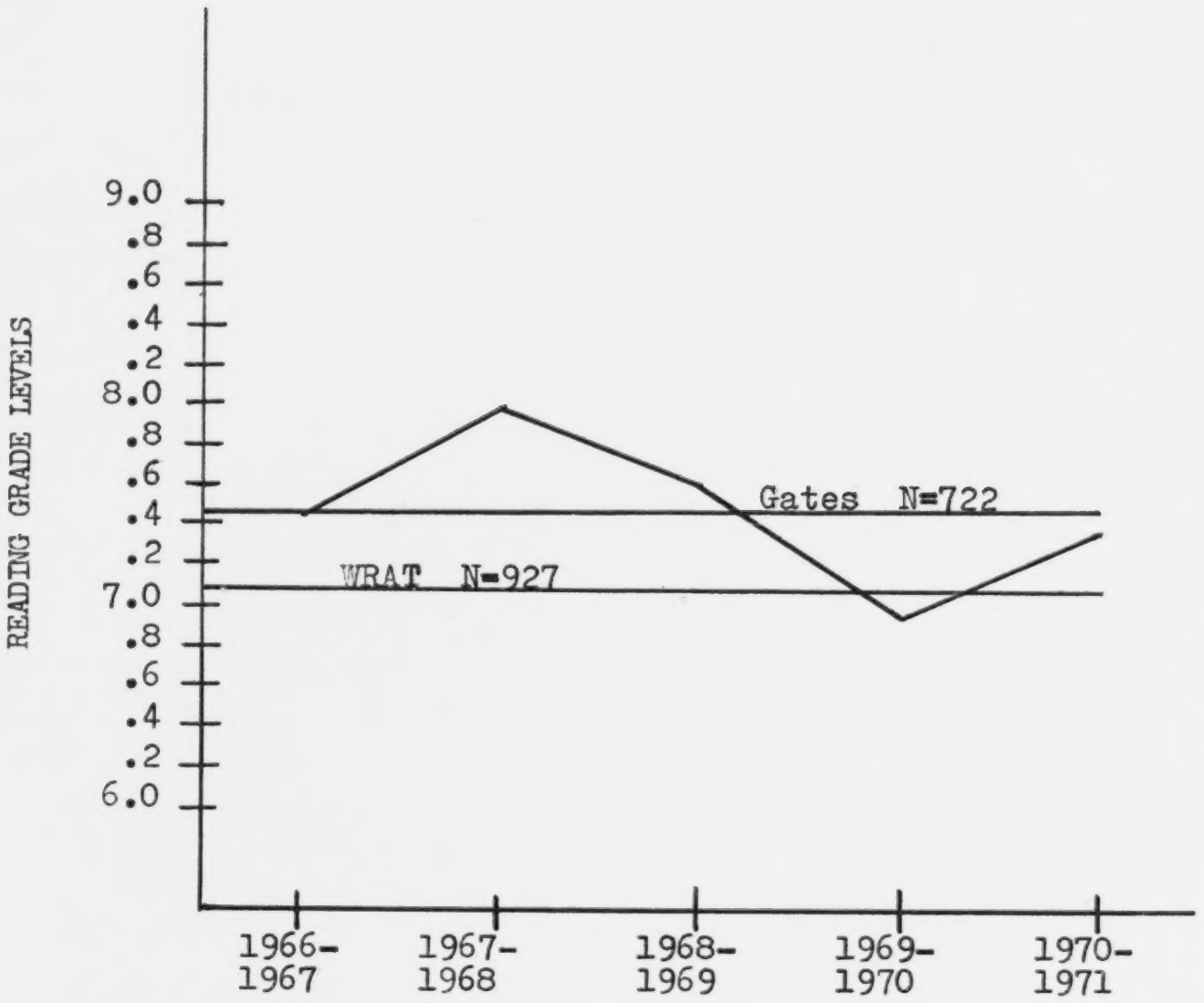

Figure 1:
Summary of mean reading grade levels of delinquents committed to Boys Totem Town during the period September, 1966 through August, 1971 as compared with mean averages of the Gates Reading Test and the Wide Range Achievement Test taken over the 5 year period.

apparent when reading level trends are compared with mean averages over the five year period according to the testing tools that were used. (e.g. Figure 1 and Figure 2)

Insert Figure 2 About Here

The results shown in Figure 2 do confirm the close correlation between IQ and reading levels that have been reported by Bond and Tinker(4, Pp. 76-81), Spache(8), and others. However, overall intelligence of delinquents appears to be improving when compared to those reported by Quay(6, Pp. 103) which showed early research on the intelligence of delinquents fell 15-20 points below that of the general population. The data accumulated over the past five years on 1228 delinquent boys indicates mean intelligence levels of 93.1 or about seven points below the general population. This, of course, may be a phenomena resulting from a restricted geographical sampling or of the tools used in testing.

The original null hypothesis to be tested was that reading grade levels of delinquents has not changed considerably in the last 5 years and, more specifically, has not changed from that reported in 1915. To test the later part of the hypothesis it was necessary to modify the hypothesis to the extent that the amount of retardation of delinquents has not changed considerably since 1915. This was necessary since data reported by Stenquist, Thorndike, and Trabeu(9) reported amount of reading under-ageness. In addition, it was imperative to convert reading grade levels observed by this study to amount retardation. This was done by the Bond and Tinker Mental Grade Method(1, Pp. 76). The Estimated Reading Expectancy was calculated by multiplying total years in school at each grade times the mean IQ observed for that grade plus 1.0. Differences between

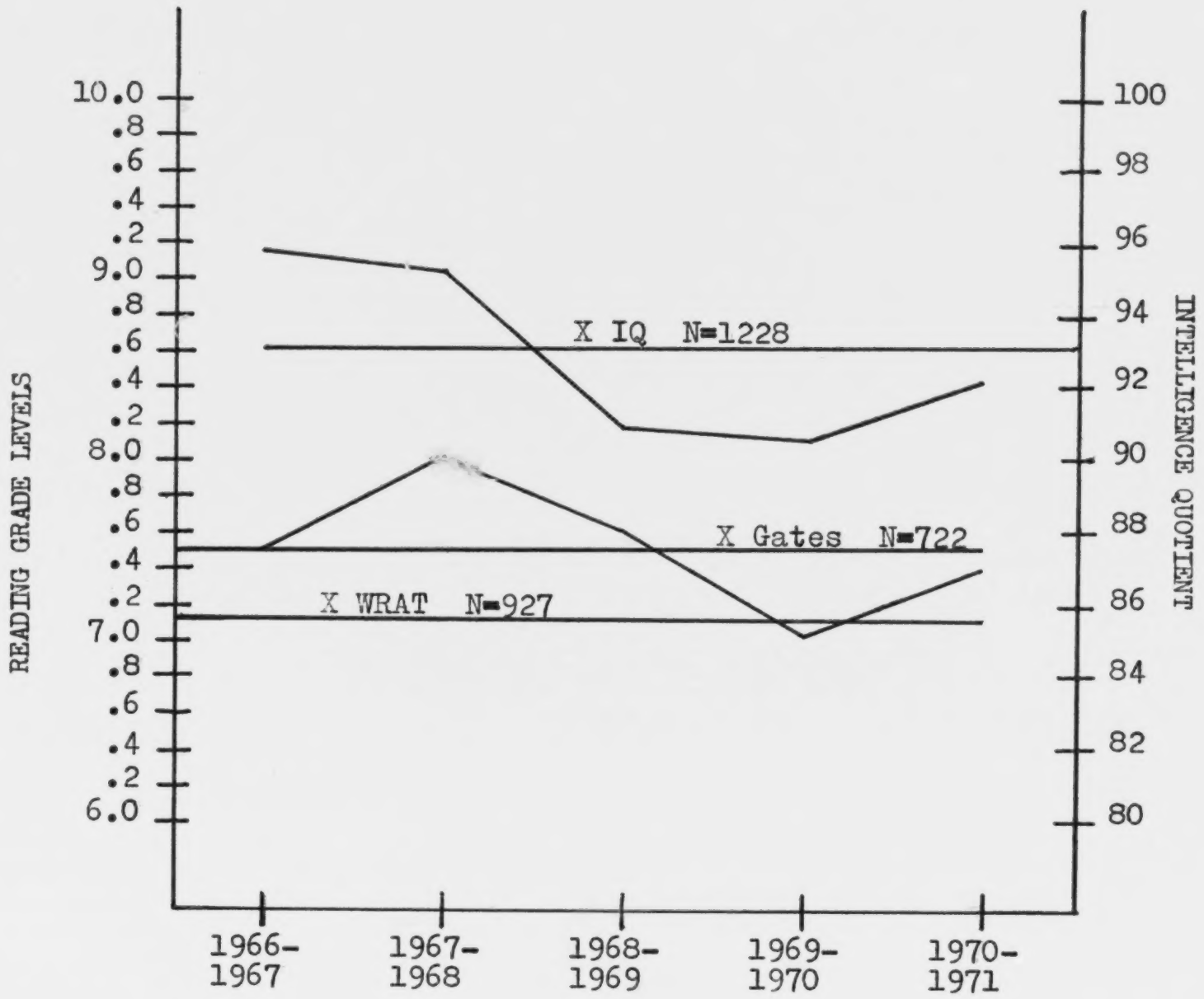

Figure 2:
Reading grade levels and mean IQ of delinquents committed to Boys Totem Town during the period September, 1966 through August, 1971.

Estimated Reading Expectancy and average observed reading grade levels during the period September, 1966 through August, 1971 were derived. These differences are summarized by Table III. The amount of reading grade level retardation (Table III) was then compared to those results published in 1915 by the Stenquist, Thorndike, and Trabue study (Table I) in Figure 3.

Insert Table III About Here

Insert Figure 3 About Here

From Figure 3 one can conclude that the basic trend of widening discrepancies between expected reading grade levels and observed reading grade levels continues to occur similar to reading under-ageness that was reported in 1915, although, the magnitude of differences does not appear to be as great as those occurring in the 1915 study. However, the magnitude could approximate more closely those reported in 1915 if Estimated Reading Expectancy by the Mental Grade Method had been calculated for completion of a grade rather than at the beginning of the grade. Another factor, requiring consideration, is the testing tools that were used. Indications are, that had the Gates Reading Test results for observed reading levels been used instead of the WRAT results, the magnitude of difference would not have been as great.

Still another factor to take into consideration is the higher IQ recorded by today's delinquents compared to those reported by Quay(6). With the observed correlation between reading level and IQ, it seems most reasonable to assume less retardation for today's delinquents when compared to those committed in 1915.

Table III. Summary of calculations and retardation by grade level of delinquents committed to Boys Totem Town during the period September, 1966 through August, 1971 as measured by the Wide Range Achievement Test.

Grade	X IQ	X estimated reading expectancy by the Mental Grade Method	X observed reading grade levels measured by the WRAT	X retardation in reading grade levels
5	77.7 N=7	4.11	3.0 N=6	1.11
6	80.9 N=10	5.04	4.25 N=8	0.79
7	87.7 N=60	6.30	5.26 N=56	1.04
8	94.0 N=156	7.58	6.12 N=143	1.46
9	91.6 N=256	8.33	6.71 N=235	1.62
10	92.9 N=302	9.36	7.58 N=272	1.78
11	95.4 N=206	10.55	8.34 N=143	2.21
12	98.3 N=89	11.81	9.17 N=63	2.64

***It was assumed each student was at the beginning of grade shown when measured with continuous promotion through previous grades.

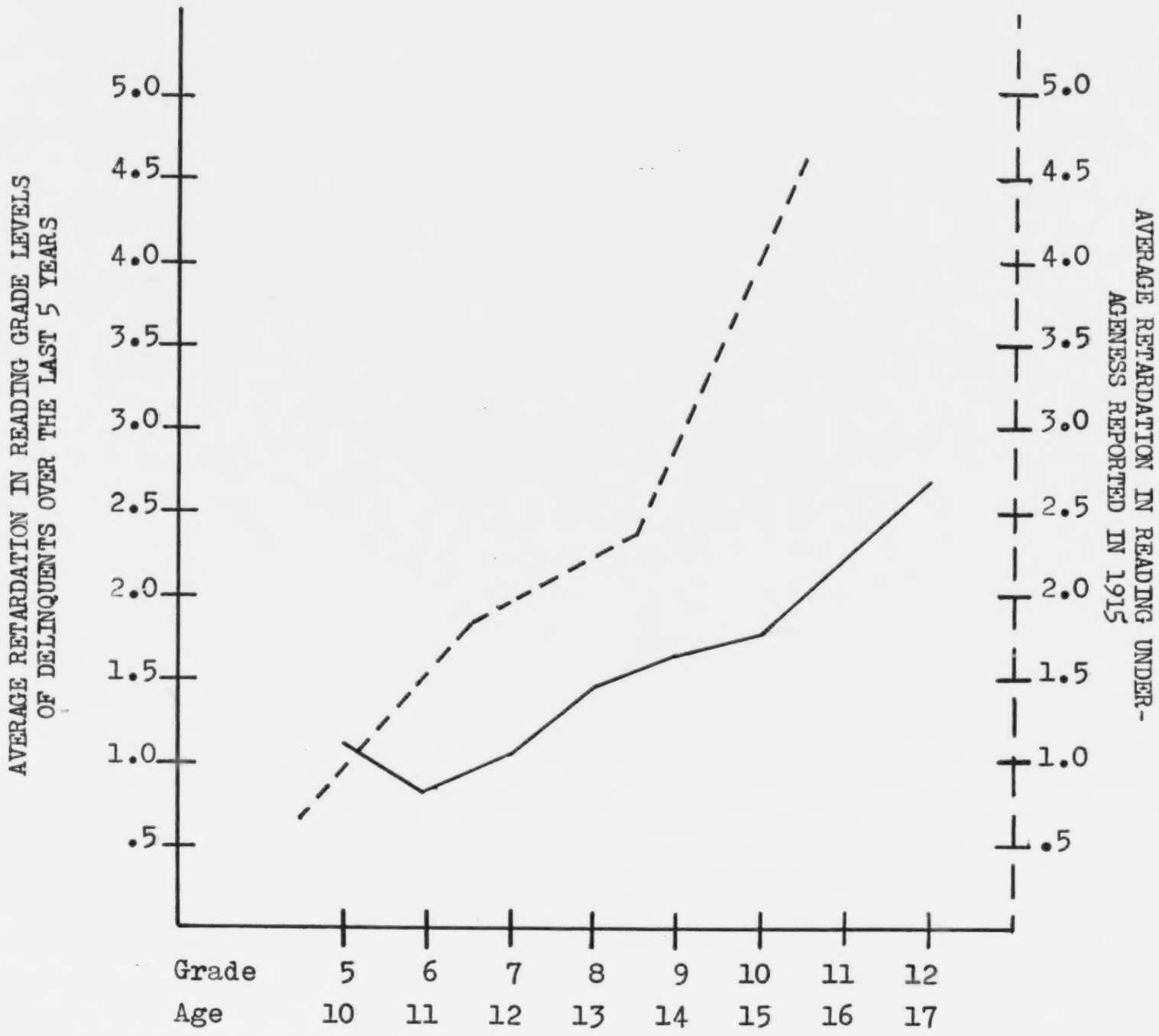

Figure 3:
Comparison of the average amount of reading grade level retardation during the period September, 1966 through August, 1971 of delinquents committed to Boys Totem Town with reading under-ageness in the 1915 study by Stenquist, Thorndike, and Trabeu.(9)

One other factor affecting the results should also be considered. This is that in the Stenquist, Thorndike and Trabue study, the average under-ageness in reading ability was determined by comparing observed reading ability of the delinquent population with the median of New York City Children of Poor Neighborhoods. Theoretically, then, the magnitude of differences they found would have been greater had they compared their observed scores with a normal population. This assumption may not be proper, however, since there is no evidence that these children were of lower ability than a "normal" population.

Conclusions and/or Implications

From the study completed, the following conclusions and/or implications may seem reasonable:

1) Trends in retardation of reading levels of delinquents has not changed drastically during the last five years for boys committed to Boys Totem Town, a residential treatment center located in St. Paul, Minnesota.

2) Trends in reading grade level retardation of these same delinquents during the period September, 1966 through August, 1971 follow the same basic pattern of delinquents measured in 1915 although there does appear to be a reduction in the magnitude of differences in reading grade level retardation, especially at the higher grade levels.

3) The trend appears that the intelligence quotient of delinquents committed is greater than that previously reported in earlier research and the correlation between IQ and reading ability implies that reading retardation of delinquents should be decreased. This implication is confirmed by the study at hand.

4) With the rise in delinquency being reported, one could expect an increase in reading grade level retardation if, in fact, reading retardation is the cause of delinquency. However, results imply that delinquency continues even though reading grade level retardation trends appear to be narrowing.

5) Early identification, diagnosis and treatment of reading difficulties among potential delinquent children remains important.

6) For delinquents, implications are that remedial reading programs are needed and will be of utmost importance in rehabilitating them.

7) For delinquent boys, recent technological advances in teaching reading as well as new reading programs have not made great contributions in terms of reducing reading grade level retardation in the last five years. However, there are factors which have tended to reduce the magnitude of reading grade level retardation over the last fifty years.

Summary

Although, basic findings presented within this study are limited to a select geographical sample, general trends of reading grade level retardation among delinquents tends to continue. More research is needed over a much broader sample of delinquent populations before absolute conclusions should be drawn. Basically, however, general trends of reading levels among delinquent children have not changed drastically during the last five years and follow similar patterns recorded in 1915 although there appears a reduction in the magnitude of differences.

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